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An

Inaugural Essay

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On

The Topography, Climate, and Diseases,
of Burke County, Georgia.

For Papers March 7th 1828
The Degree of Doctor of Medicine,

In

The University of Pennsylvania,

By

James B. Walker.

Of

Georgia.

Philadelphia,

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1828.

That the soil, Climate, and variously combined circumstances which are met with in particular sections of our Country, have a greater, or less influence upon the Character, as well as the Treatment of its Diseases, is a fact too well known to require proof in the present enlightened age of Medical Science.

The investigation of the causes, and phenomena, of Endemic Diseases, is, and has been a subject of much interest to the medical Enquirer, and for the successful accomplishment of such an object, his attention will be directed to all the varieties that may present themselves in the face of the Country, the nature of the soil, the spontaneous, and agricultural productions, the number, and extent of the rivers, & springs by which it is watered, and fertilized, the Thermometrical state of the atmosphere at different seasons, and its varied Conditions as indicated by hygrometrical observations &c.

With these data, he

will be better enabled to predict what diseases such a district may be subjected to, and will be in some measure prepared to meet the several indications for their treatment.

With these few preliminary remarks, I shall enter at once upon the subject of my Essay, in the prosecution of which, my observations though brief, shall be as exact, as the strictest enquiries in my power will admit, in relation to the Topography, Climate, and Diseases of Burke County, Georgia.

Burke County is situated about 33° north latitude, and 5° 30' longitude W. from Washington City. The County has a pentagonal form being bounded N. E. by Savannah river, which seperates it from So. Carolina; S. E. by Scriven Co. S. by Emanuel Co. W. by Jefferson, & north by Richmond County. Its length, north & south, is 32 miles — its breadth E. & W. 32 miles; its area

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Contains 1041 sqr miles. In 1820, there were 6573 whites, 84 free blacks, 5820 slaves, total 11577. In 1824 the Census was taken, and there were 77 more whites than in 1820 — making in all at that time, 11654; The people reside on lands appropriated to the Culture of Cotton, Corn &c; they seldom have very near neighbours, and the sparseness of the population is not altogether owing to the barrenness of the soil, but in a good degree to the Character of that population; the lands being mostly parcelled out among wealthy planters, who Cultivate them by means of slaves, composing the labouring Class almost entirely.

The surface like that of the neighbouring Counties, is various, in some parts rolling, in others flat, and wherever there are large Creeks, their banks Constitute extensive swamps which are the fruitfull sources of Bilious & other autumnal Fevers. The soil is generally

good; it varies however, in a great measure from the extent of Cultivation, and as lying near to, or further removed from Creeks, and rivers. In regard to the first, the soil is generally so light that by a few years of Cultivation its fertility is destroyed. This kind of land is called the Pine barren, which is considered less productive, than the other species of soil: It most commonly changes at the depth of a few feet, (& sometimes much less) from sand to Clay. The Clay lands are considered in general fertile, they consist of a black mould, and red earth, and according to the proportion, varies from a dark, to a lighter Coulour — this is very productive.

Besides this, there is another that is met with, a very rich, and almost black soil, which affords a plentiful growth of various kinds of wood, as the different species of the Quercus, Cornus &c, the last

a sure evidence of good land. The forest growth is in some instances oak, & hickory, in others the long leaf'd pine (Pinus Palustris.) with the Black Jack Quercus nigra) intermixed.

Several small Creeks intersect the County in various directions; they are bordered more or less, by low lands; The principal streams are the Savannah river, which washes the north east border for 24 miles; Briar Creek, a considerable, but sluggish water that divides the County into two not very unequal portions, & which runs from North west, to south East— Buckhead Creek, is also a considerable stream. These water courses are very subject to inundations or freshets which spread to a great distance beyond their natural margins

Besides these water courses there are a great number of natural Ponds, the borders of which afford good pasturage for Cattle, and

add beauty to the landscape. These ponds often become dry in the summer seasons; Besides these, there are a number of artificial ponds, which, in proportion to the quantity of rains that fall are more, or less, fill'd with water; sometimes the water is allowed to run off from them, or in very dry seasons evaporates, exposing a surface covered with dead trees, bark, leaves, and other vegetable matter. It is remarked by those who live near to them, that they are more healthy when by frequent rains they are kept Constantly full. The water for Culinary purposes in Burke County is generally bad (with some few exceptions) mostly of the discription term'd the rotten lime stone, which has a flat disagreeable taste; and is oppressive to the stomach, especially of Strangers, & subjects them to Diarrhea's &c. It may also be said to be in the region of the long moss (Tillandsia Recurvata) which

as far as my observations have extended, is found in nearly the same parallel of Latitude in several states; and appears to be bounded in this state, by the the termination of the rotten lime stone region. "This vegetable is regarded by popular opinion as an infallible mark of a sickly country; and is vulgarly called the flag of death." But it cannot be considered in this light; except as it occurs in a region where the atmosphere is highly charged with vapour, and I have occasionally met with it in abundance in a broken country which from the nature of its surface must be healthy.

As respects the Botanical history of Burke, perhaps there is no country that affords a greater field for the Botanist; than the one of which I now speaks The diversified nature of the soil, and its various grades of richness, intersected as it is by rivulets and further moistened by

numerous ponds, affords an abundance of medicinal plants, which are made use of by the inhabitants with great benefit

For part of the information on this head, I am greatly indebted to my intelligent and scientific preceptor Dr. S. Harlow, who has politely indicated several plants mentioned as follows; of the different classes as of, Emetics, Cathartics &c Euphorbia Ipecacuanha Sanguinaria Canadensis, Nicotiana Tabacum, Ricinus Communis, Podophyllum Peltatum, Juglans Cathartica, Asclepias Tuberosa, Laurus Sassafras, Xanthoxylum Fraxineum, Rhus Toxicodendron, Aspidium Filix mas, Leontodon Taraxacum, Polygala Senega, Chimaphila Umbellata, Humulus Lupulus, Daucus Carota, Allium Sativum, Rosmarinus Officinalis, Cunila Pulegioides, Tanacetum Vulgare Sesbanum Orientale, Arum Triphyllum, Spigelia Marilandica, Melia Azedarach, Chenopodium Anthelmintichum, Capsicum, Sinapis Nigra et Alba, Papaver

Conniferum, Lobelia Virosa, Solanum Tuberosum, Quercus Cerris, Punica Granatum, Prinos Verticillatus, Rubus procumbens, et Villosus. I might go on to enumerate some others which the above gentleman has cultivated or known to exist within the limits of the county.

Besides the above I add the following list of the medicinal plants which are of the class of Tonics and which are in most extensive use; Aristolochia serpentaria, Gentiana Catesbei, Commonly called the sampson snake root, a popular medicine, and certainly, an excellent bitter tonic; Eupatorium Perfoliatum (Boneset or Thoroughwort,) Eupatorium Pilosum (wild horehound) Eryngium Aquaticum (Rattlesnake root;) also a popular medicine: a short account of this article, is to be found in the 1st vol of Mr. Elliots Flora of south Carolina, & Georgia, by Dr. James McBride. whose acquirements in

the department of Indigenous Materia Medica are inferior to those of no other person, and is the only one that I have ever seen.

There is but little variety in the mineral productions of the country, a kind of impure limestone containing Marine shells, is one of the most common. This is seen in various places on the Savannah River, as at Shell Bluff, where there is an immense aggregate of oyster shells, constituting part of a long line of similar marine remains, which extends with intervals across the states of Carolina, Georgia & Alabama.

The climate bears great resemblance to that of Tropical Countries, the summers being hot and long in which it differs from the Northern latitudes. It differs from that of the west Indies, however, by the greater extremes of heat & cold, for in

the Islands, the Thermometer rarely rises above 90°, nor falls below 80°, in the Course of the year, hence its variableness resembles that of the Northern Latitudes. In Georgia, Dr Moseley remarks, "the Thermometer frequently stands at 120° & 130°; and sometimes much higher, according to the Clearness of the Sky, and as the situation is more or less reflecting." It is not so much the immediate heat of the sun, which so often effects those more particularly, who are unused to the Climate, but it is the sudden transitions from heat, to cold, & vice versa, which we are to fear; We may defend ourselves from the heat of the sun, but cannot be guarded against the sudden changes of Temperature.

These changes are generally remarkably sudden, and sometimes very great. It is not uncommon for the mercury to fall 10° or 15°, in the space of an hour, or two, frost-

seldom appears before the last of October, and does not often extend more than 2, or 3. Inches into the ground. The weather is so variable, that a fire has been pleasant in the month of June, particularly, when the air has been loaded with moisture; Again, fires have been found uncomfortable in the middle of winter, and it is found pleasant to have the windows raised; these transitions from hot to cold are so common that it is not unusual for a very cold day, to be succeeded by one in which the heat of the sun will be very unpleasant.

The mercury often exceeds 90° in the month of January. The hottest hour of the twenty four, is, about 3 P. M. but this is only an average, for the mercury frequently continues stationary from 11 A. M. to 7 P. M. The medium temperature of the atmosphere during the sickly months of July, August, and September, may be stated at 78° of F. Thermometer,

and the greatest heat 99° to 101°. The nights, (however warm the days may have been) are much cooler than in more Northern latitudes, and during the months of August & September, although the heat may be oppressive in the first part of the nights, yet, before morning it is frequently so cool as to be uncomfortable. This causes no doubt, any frequently, agues, & fevers, by checking the perspiration, and is aided by the lassitude, and debility induced by the heat of the day previous; these very great and sudden Changes of Temperature prove to be the occasional causes not only of agues and fevers, but of fever of every form.

Indeed the fevers of the climate rarely put on a seriously alarming aspect until the approach of autumn, when their vicissitudes become more frequent and greater; the endemics begin to show themselves in July, and increase in

August, and September; The two last mentioned months are considered the most sickly of the whole year, and the cases are marked by symptoms of greater violence, & malignancy.

The mean longevity of the inhabitants is from 40, to 45 years: you will scarcely find, or hear of a very aged person, which probably depends upon the manner of living. By endeavouring to counteract the debilitating effects of the Climate, they expend the limits prescribed by temperance & simplicity, continuing to indulge in the stimulating drinks, & high seasoned articles of diet, which produce a long train of diseases, and finally terminate in premature old age and death.

Fevers of various types as Continued, Simple Bilious Remittent, the different forms of Intermittent, and other acute affections, compose the greater part of our diseases;

and these may be considered as more particularly our Endemics. I have already spoken of the numerous ponds, both natural, and artificial, found throughout the country, fill'd with animal, and vegetable matter, in a state of decomposition, also of Creeks, whose margins, affording a large extent of marshy land, are, in very dry seasons exposed to the direct rays of the Sun, which acting upon this animal, & vegetable matter, induces at that time, a more rapid decomposition, and engenders a poison, which Communicates through the medium of the atmosphere, is received into the body and lurks there, until exciting Causes are applied to bring it into action.

Much rain succeeded by heat, and dryness promotes putrefaction, & is another source of putrid exhalations: Cotton seeds, which are used for manuring the fields during the time of heavy rains often produce

a stench which is intolerable, and highly detrimental to health.

Without describing the various symptoms that characterize the several forms of our fevers; I shall offer but a few remarks upon the treatment which is generally pursued. The most common diseases of the summer, and autumnal months, before spoken of, require in their commencement a prompt use of Emetics, and Cathartics, and not unfrequently the Lancet.

The Malignant bilious fever, which sometimes occurs in Burke, requires the treatment to be modified according to circumstances. For instance, there may be many cases, which will not admit the use of Emetics, on account of the excessive irritability of stomach, and my opinion is, they require a freer use of Calomel;

Indeed, the doses of Calomel that may be taken with benefit are enormous, and there is hardly a possibility of touching the Gums in many by any quantities of this article, given internally – yet in a few instances, a moderate dose will induce salivation. There does not appear to be any law by which, with any certainty, we can regulate its specific effects, nor do we know what particular state of the system favours its operation in this manner.

Diarrhea & Cholera-morbus are likewise frequent diseases – The latter excited by the same causes as Bilious fever. During the last summer, & summer previous they have a prevalent affection somewhat similar to Cholera, frequently commencing with a sense of chilliness, fever, oppressed stomach, vomiting, & a Diarrhea, Continuing

for a number of days, which in some instances, when neglected, has proved fatal. It has in most cases, been removed by Emetics & Cathartics, exhibited in the commencement, and the subsequent exhibition of tonics & opiates, according, to circumstances has been found useful.

Acute diseases require a timely and judicious use of powerful remedies, that we may prevent their fatal termination; one of our opiates resources in the treatment of such diseases in general, is bloodletting. The high authority of Galen, and others among the ancients, and of moderns, Sydenham, Mosely, Cleghorn, Rush, and others who have particularly practiced bleeding in the diseases of Tropical Climates, and hot seasons of the year, leaves no doubt as to the propriety of that mode of practice. The increased impetus given to the circulation by long continued heat of the sun, points out

is us the necessity of bloodletting.

It is also indicated by the fact that strangers from Northern Countries, are always the greatest sufferers in our sickly seasons. at the commencement of summer they complain of headach, giddiness, heaviness, loss of appetite; and very often fullness of bloodvessels. These symptoms demand depletion by the lancet. If this is neglected, congestion in the bloodvessels of the liver, lungs, and brain, are often the fatal consequences; or these affections may result in a long protracted state of indirect debility. By these early & active means, these fevers may often be stifled in embryo, and the above fatal sequela prevented.

Emetics are generally prescribed at the commencement of the greater part of our fevers; the deranged state of the stomach showing itself by nausea, foul tongue, foetid breath, the lickes

up state of the several secretions, manifested by a dry, hot skin, thirst, constipation &c, all show the necessity of Emetics, which, though of as beneficial are nevertheless sometimes inadmissible as a first step, in consequence of the great irritability of the stomach, before mentioned, and determination to the head, requiring the previous use of venesection, & Cathartics, These unload the intestines of their fœtid contents; and operate favourably also by lessening the quantum of blood in the system by means of increased secretions.

In diseases of hot climates the Liver is more particularly affected; and by the timely exhibition of Cathartics the several emunctories are opened, and those fatal effusions, and congestions are most usually prevented. In fevers the peristaltic motion of the Intestines is diminished, the feculent matter is retained and becomes a source of irritation, & evacuation, therefore, by the use of proper

purging, is clearly indicated.

Blisters are seldom found necessary in the early stage of febrile diseases, except where their force is exerted upon the part essential to life, but, after proper local depletion, they may be found of essential service in transferring irritation to a safer situation and equalizing the excitement. In fevers of the Typhoid Type, where great debility prevails blisters are of great utility, by exerting a stimulant influence over the sinking powers of the system, and giving energy to the impaired vigour of the circulation.

Refrigerants by diminishing the force of the circulation, and by the reduction of morbidly increased temperature, are found beneficial. In great determination to the head accompanied by pain: applications of cold water, by means of cloth, have been used with great benefit; cold water as a drink, further favours the reduction

of temperature, quiets the uneasy cravings which most persons, particularly Children have for this refreshing draught, and in this way, may often remove much of that morbid excitement, and render our patient comparatively comfortable. When we have removed the active symptoms of febrile excitement, we can the sooner enter upon the tonic course of treatment, in this Climate than in more northern latitudes.

Such is a general outline of the treatment commonly pursued in fevers of the Intermittent, Remittent, & Bilious type; Where it has taken place, we must counteract the strong tendency to debility, by proper stimulants, and tonics, Correct the putrescent state of the fluids, by proper antiseptics; keep the several secretions open, and particularly those of the surface.

I need not speak of the

use of Bark and its various preparations, very particularly — These necessarily enter into the management of the Intermittent types of the disease. The sulphate of quinine, has been very freely employed in Burke County, and on account of the smallness of its bulk, as compared with a relative amount of the active principles in powdered Bark or its decoctions, will probably command a decided preference in practice.